

ABSTRACT

It is aimed at providing an oxynitride powder, which is suitable for usage as a phosphor, is free from coloration due to contamination of impurities, and mainly includes a fine α -sialon powder.

An oxynitride powder is produced by applying a heat treatment in a reducing and nitriding atmosphere, to a precursor compound including at least constituent elements M, Si, Al, and O (where M is one element or mixed two or more elements selected from Li, Mg, Ca, Sr, Y, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, and Lu), thereby decreasing an oxygen content and increasing a nitrogen content of the precursor. (FIG. 3)